UNITED STATES DISTRICT COURT
SOUTHERN DISTRICT OF NEW YORK

iSENTIUM, LLC,

Plaintiff,

– against –

BLOOMBERG FINANCE L.P., BLOOMBERG L.P., and BLOOMBERG INC.,

Defendants.

Civil Action No. 1:17-cv-07601-PKC

MEMORANDUM OF LAW OF PLAINTIFF ISENTIUM, LLC IN OPPOSITION TO DEFENDANTS' MOTION TO DISMISS

BLACKSTONE LAW GROUP LLP
1201 Broadway
New York, New York 10001
(212) 779-3070

BRAKE HUGHES BELLERMANN LLP
1701 Pennsylvania Avenue, NW
Washington, DC 20006
(202) 470-6453

Attorneys for Plaintiff iSentium, LLC

February 23, 2018

TABLE OF CONTENTS

Page

TABLE OF AUTHORITIES ii

PRELIMINARY STATEMENT 1

FACTUAL BACKGROUND 2

ARGUMENT

I. The Legal Standard 7

II. Defendants Have Failed to Demonstrate That the '056 Patent is Not Patent Eligible ..8

A. Step 1: The '056 Patent Claims Are Not Directed to an Abstract Idea 9

B. Step 2: The '056 Patent Claims Are Inventive 14

III. The Complaint Adequately Pleads a Claim for Trade Secret Misappropriation 18

IV. Plaintiff's Complaint Raises Viable Common Law Causes of Action Independent of Its Patent Infringement and Trade Secret Misappropriation Claims 20

CONCLUSION 21

TABLE OF AUTHORITIES

Page(s)

CASES

A Star Group, Inc. v. Manitoba Hydro, 2014 WL 2933155 (S.D.N.Y. June 30, 2014), *aff'd*, 621 Fed. Appx. 681 (2d Cir. 2015) 19

Aatrix Software, Inc. v. Green Shades Software, Inc., Appeal No. 2017-1452 (Fed. Cir. Feb. 14, 2018) 17

Alexander Interactive, Inc. v. Leisure Pro Ltd., No. 14-cv-2796 (PKC) 2014 WL 4651942 (S.D.N.Y. Sept. 16, 2014) (Castel, J.).....19

Alice Corp. Pty. Ltd. v. CLS Bank Intern., 134 S. Ct. 2347 (2014) 8, 9, 12

Amdocs (Israel) Limited v. Openet Telecom, Inc., 841 F.3d 1288 (2016).....14, 15

Atmel Corp. v. Info. Storage Devices, 198 F.3d 1374 (Fed. Cir. 1999).....16

ATSI Commc'ns, Inc. v. Shaar Fund, Ltd., 493 F.3d 87 (2d Cir. 2007) 7

Ashcroft v. Iqbal, 556 U.S. 662 (2009).....7

Barnet v. Drawbridge Special Opportunities Fund LP, 14-cv-1376 PKC, 2014 WL 4393320 (S.D.N.Y. Sept. 5, 2014) (Castel, J.).....21

Bascom Global Internet Services, Inc. v. AT&T Mobility LLC, 827 F.3d 1341 (Fed. Cir. 2016) 14

Bell Atlantic Corp. v. Twombly, 550 U.S. 544 (2007).....7

Berkheimer v. HP Inc., Appeal No. 2017-1437 (Fed. Cir. Feb. 8, 2018) 17, 18

Boccardi Capital Sys., Inc. v. D.E. Shaw Laminar Portfolios, L.L.C., No. 05–cv–6882 (GBD) 2009 WL 362118 (S.D.N.Y. Feb. 9, 2009).....19

Chubb Ina Holdings Inc. v. Chang, 2017 WL 499682 (D.N.J. Feb. 7, 2017) 19

Content Extraction & Transmission v. Wells Fargo Bank, N.A., 776 F.3d 1343 (Fed. Cir. 2014) 7

Crypto Research, LLC v. Assa Abloy, Inc., 236 F. Supp. 3d 671 (E.D.N.Y. 2017) 7

CyberSource Corp. v. Retail Decisions, Inc., 654 F.3d 1366 (Fed. Cir. 2011) 12

Diamond v. Diehr, 450 U. S. 175 (1981).....8

Digitech Image Technologies v. Electronics for Imaging, Inc., 758 F.3d 1344 (Fed. Cir. 2014) 15

Enfish, LLC v. Microsoft Corp., 822 F.3d 1327 (Fed. Cir. 2016).....16

Evolutionary Intelligence, LLC v. Spring Nextel Corp., 137 F. Supp. 3d 1157 (N.D. Cal., 2015).....17

Fairwarning IP, LLC v. Iatric Sys., Inc., 839 F.3d 1089 (Fed. Cir. 2016) 13–14

Front Row Techs, LLC v. NBA Media Ventures, LLC, 204 F. Supp. 3d 1190 (D.N.M. 2016).....17

Int'l. Audiotext Network, Inc. v. AT&T, 62 F.3d 69 (2d. Cir. 1995).....7

Internet Patents Corp. v. Active Network, Inc., 790 F.3d 1343 (Fed. Cir. 2015) 8

McRO, Inc. v. Bandai Namco Games Am., Inc., 837 F.3d 1299 (Fed. Cir. 2016).....8, 10–14

Microsoft Corp. v. i4i Ltd. P'ship, 564 U.S. 91 (2011) 17

N. Atl. Instruments, Inc. v. Haber, 188 F.3d 38 (2d Cir. 1999) 19

Newman & Schwartz v. Asplundh Tree Expert Co., Inc., 102 F.3d 660 (2d Cir. 1996) 21

Physician's Surrogacy, Inc. v. German, 2017 WL 3622329 (S.D. Cal Aug. 23, 2017) 18–19

Procter & Gamble Co. v QuantifiCare Inc., 17-CV-03061-LHK, 2017 WL 6497629 (N.D. Cal. Dec. 19, 2017) 14

Research Corp. Techs. v. Microsoft Corp., 627 F.3d 859 (Fed. Cir. 2010).....12, 13

Rockwell Collins, Inc. v. Wallace, 2017 WL 5502775 (C.D. Cal. Nov. 10, 2017) 18

SiRF Tech., Inc. v. Int'l Trade Comm'n, 601 F.3d 1319 (Fed. Cir. 2010).....12, 13

Sleekez, LLC v. Horton, 2017 WL 1906957 (D. Mont. Apr. 21, 2017).....19

Univ. of Florida Research Foundation v. General Electric Co., 2017 WL 5502940 (N.D. Fla., Nov. 16, 2017) 13

Wireless Ink v. Facebook, Inc., 787 F. Supp. 2d 298 (S.D.N.Y. 2011) (Castel, J.).....7

BOOKS AND ARTICLES

Austin Underhill, *Who Is Alice, And Why Is She Driving Patent Attorneys Mad As Hatters?*, ABOVE THE LAW (Feb. 19, 2016) 8

Michael Mattioli, *Disclosing Big Data*, 99 MINN. L. REV. 535, 569 (2014) 15

OTHER AUTHORITIES

Fed. R. Civ. P. 8(a) 1, 7, 21

Fed. R. Civ. P. 12(b)(6).....1, 7, 14, 17

18 U.S.C. § 1831.....2

Plaintiff iSentium, LLC ("iSentium") respectfully submits this memorandum of law in opposition to Defendants Bloomberg Finance L.P., Bloomberg L.P. and Bloomberg Inc.'s (collectively, "Bloomberg") motion to dismiss pursuant to Fed. R. Civ. P. 12(b)(6).

PRELIMINARY STATEMENT

By this motion, Bloomberg seeks to nullify the years of work and millions of dollars of research and development by a team of linguistic and computer scientists who invented and patented a novel method of extracting market-specific sentiment from the morass of social media. Defendants' patent ineligibility claim is merely cover for Bloomberg's violation of a contractual non-disclosure agreement with iSentium that covered the parties' three-year business relationship, which ended with Defendants stealing Plaintiff's scientific and market know-how to build its own sentiment calculator in violation of iSentium's contractual and common law rights.

Defendants' motion should be denied because: ***First,*** a fair and complete reading of Plaintiff's patent shows that iSentium's invention is not an attempt to patent an "abstract idea," but rather is a new, novel, and valuable invention that allows market participants to process in real-time vast quantities of social media tweets in a reliable, objective, quantifiable manner in order to extract actionable signals from an otherwise impenetrable quantum of "noisy" data.

Second, there is no requirement under the Federal Rules or case law that trade secret misappropriation claims under the Defend Trade Secrets Act or New York common law be plead with particularity. The Complaint provides more than adequate notice to the Defendants of the misappropriation claims asserted by Plaintiff, which is all that is required under Rule 8.

Third, the remaining claims of the Complaint each state independent causes of action that do not depend on a finding of patent infringement or trade secret misappropriation. Moreover, even if Plaintiff's common law claims do sound in "quasi contract," Plaintiff is entitled at the pleading stage to assert alternative – even contradictory – causes of action.

FACTUAL BACKGROUND

Plaintiff's Complaint ("Compl."; Dkt. No. 1) alleges separate causes of action for (i) patent infringement (Claim I); (ii) contractual breach of a mutual non-disclosure agreement (Claim II); (iii) misappropriation of trade secrets under the federal Defend Trade Secrets Act, 18 U.S.C. § 1831 *et seq.* ("DTSA") and New York common law (Claim III); as well as (iv) common law claims of unfair competition (Claim IV), promissory estoppel (Claim V), unjust enrichment (Claim VI), and a request for an accounting (Claim VII).

Defendants' motion focuses only on the patent and misappropriation claims. It's not until the last page of their brief that Defendants argue that Plaintiff's "claims for breach of contract, promissory estoppel, unjust enrichment and unfair competition – as well as its requested accounting – all turn on the assertion that Bloomberg infringed a patent or misappropriated trade secrets." (*See* Defs.' Br. at 25.) In addition, Defendants assert that Plaintiff's claims for promissory estoppel and unjust enrichment "sound in quasi-contract and merely duplicate plaintiff's separate claim for breach of contract." *Id.*

The iSentium – Bloomberg Business Relationship

iSentium is a technology company formed in 2008 by a team of world-leading linguists, quants, and computer scientists to create applications for processing and analyzing the user sentiment of massive amounts of social media content on a real-time basis and transforming this unstructured data into actionable indicators for use in investment trading, marketing, and politics, among other things. (Compl. ¶ 13). In 2014, iSentium obtained a patent for its key technology, known as the '056 Patent. (Compl. ¶ 11).

iSentium entered into a business relationship with Bloomberg in 2013 to incorporate iSentium's sentiment analysis technology ("iSENSE") onto the Bloomberg Terminal trading platform. (Compl. ¶ 15). The relationship centered around several agreements, including a Mutual Non-Disclosure Agreement ("MNDA"). iSentium's development of iSENSE eventually outpaced the technology of the Bloomberg platform, and iSentium terminated the relationship with Bloomberg in early 2016. (Compl. ¶¶ 26–28).

Upon the termination of the MNDA, Bloomberg was required to return or destroy all of the confidential information iSentium provided to Bloomberg over the course of their business relationship. (Compl. ¶ 29.) This confidential information included, among other things, the text of each of the billions of tweets and the sentiment scores derived therefrom that iSentium had processed to date. This vast and invaluable store of information is the perfect dataset for Bloomberg to have used to build its own sentiment calculator, and certainly within the time frame it appears Bloomberg took to launch its application.

Less than six weeks after iSentium terminated the MNDA, Bloomberg announced the launch of its own sentiment analysis application, which appears to be a copy or near copy of the iSentium technology. (Compl. ¶ 33). Given iSentium's understanding of Bloomberg's limited capabilities in the area of sentiment analysis, linguistics, and computer programming, learned over the course of the two companies' three-year business relationship, iSentium believes that it would be impossible for Bloomberg to have developed its own sentiment calculator in such a short period of time without taking significant knowledge from iSentium's patented technology and utilizing the vast amount of other information, data, and trade secrets shared with Bloomberg under the terms of the MNDA – including the dataset described above. (Compl. ¶¶ 33–35).

The '056 Patent

U.S. Patent 8,856,056 (the "'056 Patent," Dkt. No. 12-1) discloses an innovative improvement in computer-based sentiment analysis, which avoids the shortcomings of the prior conventional methods. ('056 Patent, 6:37–39). Prior to the innovations disclosed in the '056 Patent, common practice in computer-based sentiment analysis utilized statistical methods, including classifiers using bag-of-words and semantic orientation. ('056 Patent, 1:25–30, 36–39; 7:33–37). These statistical methods focused on adjectives only ('056 Patent, 1:39-41; 6:49–52) and ignored sentiment expressed in other parts of speech. ('056 Patent, 13:23–27). Previous methods also failed to determine sentiment with respect to specific assets. ('056 Patent, 1:25–45; 7:33–37). In addition, prior approaches do not work well on social media messages, which are short, noisy, and often lacking formal grammatical structure. ('056 Patent 1:44–46; 5:55–67).

In contrast to the conventional statistics-based approaches, the '056 Patent uses a novel natural language approach to calculate a numerical sentiment value per asset. ('056 Patent, 8:31–35; claim 1). Contrary to Defendants' allegation, this approach is not easy, conventional or well-known, because the semantics conveyed by natural language is non-compositional and idiosyncratic, and social media messages can include more than one asset, more than one event, and more than one sentiment, making the analysis of such language complex and challenging. ('056 Patent, 7:47–48; 16:20–23). Indeed, the development of the technology disclosed in the '056 Patent required the combined efforts of internationally recognized experts in linguistics and computer science over a period of five years. (Compl. ¶ 34).

The result of the years of work by the inventors is an approach that combines a novel database of lexical items, a structure hierarchy, a set of polarity rules, and a set of strength rules that, working together, provide a numerical sentiment value for an asset from short social-media

messages. ('056 Patent, 6:33–7:9). The novel database of lexical items includes a hand-crafted sentiment-based database of lexical items and phrases that are indicative of sentiment. ('056 Patent, 10:65–11:2). The database includes, for each item, an assigned part-of-speech tag, a polarity, and a strength value. ('056 Patent, 11:21–27). The novel database of lexical items also includes a curated domain-specific lexical repository, *e.g.*, a repository of stock-specific lexical items. ('056 Patent, 12:33–39).

The stock-specific lexical items also are assigned a part-of-speech, a polarity, and a strength. ('056 Patent; 12:16–23). Contrary to Defendants' allegations, these databases were not known and conventional. Rather, their structure and content represent an innovative improvement to a natural language processor that makes application of the polarity and strength rules possible. ('056 Patent; 12:39–45). The databases increase the accuracy of the sentiment calculation by ensuring the sentiment reflects the domain in which it is used. For example, the term "dip" may have a negative connotation in connection with the stock market but a neutral or even positive connotation when used in a food domain. ('056 Patent, 16:26–29).

The '056 Patent explains that after part of speech tagging has been performed on a social media message, the sentiment calculus is based on the lexical polarity and strength values of the lexical items and phrases defined in the databases and how the lexical items and phrases are syntactically organized in the message. ('056 Patent, 14:54–60). In particular, the '056 Patent explains that the polarity rules and strength rules apply to three specific syntactic relations: 1) head-complement; 2) modifier-modified; and 3) subject-predicate. ('056 Patent, 15:29–32; 16:1–2). Based on the part of speech tagging, lexical items in the social media message are assigned to at least one, and often more than one, of these relations.

For example, in the sentence *AAPL hits the market*, *AAPL* is the subject in a subject-predicate structure and *hits the market* is the corresponding predicate. ('056 Patent, 15:15–17). In addition, *the market* is a head and *hits* is its complement. ('056 Patent, 15:4–9). The polarity and strength rules apply compositionally to these structures. Thus, the lexical pairs (*the market, hit*) and (*AAPL, hits the market*) are both evaluated for the sentence *AAPL hits the market,* with the polarity and strength values for the lexical pairs being derived from the novel database structures. ('056 Patent; 15:18–23). The rules are applied compositionally; once the system determines the polarity and strength of (*the market, hits*), this can be used as the argument for determining the polarity and strength of (*AAPL, hits the market*). ('056 Patent, 14:44–48). Unlike the common practice, which specifies sentiment values for adjectives, the unconventional use of these syntactic relations and novel database structures results in the ability to account for more than just adjectives and a compositional per-asset sentiment calculus. ('056 Patent, 12:39–45). It also enables sentiment calculation at the sentence level for a particular asset, which provides a level of detail unavailable in the prior conventional methods. ('056 Patent 16:23–26).

The innovative and unconventional approach disclosed in the '056 Patent operates in real time. ('056 Patent, 1:52–54; 5:32–37). Anyone familiar with social media understands that this means processing many thousands of messages per second. The real-time capabilities of the system – combined with its accuracy – mean that the sentiment calculations can be used to anticipate the reaction of market participants before they act. ('056 Patent, 4:45–46). This accurate, real-time approach represents a valuable tool unavailable from other sources. (Compl. ¶ 12). It is clear that determining polarity and strength values for an asset from social media messages based on pairs of lexical items in syntactic context was neither well-understood nor in any way routine or conventional before the filing of the application that lead to the '056 Patent.

ARGUMENT

I. The Legal Standard

To survive a motion to dismiss under Rule 12(b)(6), a plaintiff must provide the Court with "factual allegations sufficient to raise a right to relief above the speculative level," while providing the defendant with "fair notice" through a "short and plain statement of the claim." *Wireless Ink v. Facebook, Inc.*, 787 F. Supp. 2d 298, 305–06 (S.D.N.Y. 2011) (Castel, J.) (citing *Bell Atlantic Corp. v. Twombly*, 550 U.S. 544 (2007) and Fed. R. Civ. P. 8(a)(2)).

This is not a high burden; plaintiff "need only 'nudge' its claim 'across the line from conceivable to plausible.'" *Crypto Research, LLC v. Assa Abloy, Inc.*, 236 F. Supp. 3d 671, 686 (E.D.N.Y. 2017) (quoting *Ashcroft v. Iqbal*, 556 U.S. 662 (2009)). As this Court put it: "To survive a motion to dismiss under Rule 12(b)(6), a plaintiff must provide grounds upon which the claims rest, through factual allegations sufficient to raise a right to relief above the speculative level." *Wireless Ink*, 787 F. Supp. 2d at 305–06 (citing *ATSI Commc'ns, Inc. v. Shaar Fund, Ltd.*, 493 F.3d 87, 98 (2d Cir. 2007)).

"Although the Court is limited to facts as stated in the complaint [on a 12(b)(6) motion], it may consider exhibits or documents incorporated by reference without converting the motion into one for summary judgment." *Wireless Ink*, 787 F. Supp. 2d at 306 (citing *Int'l. Audiotext Network, Inc. v. AT&T*, 62 F.3d 69, 72 (2d. Cir. 1995)).

As always, "[t]he defendants, as the parties moving to dismiss, still bear the burden of demonstrating that the claims are not patent eligible under Section 101. In evaluating whether the claims are patent-eligible, [the Court will] construe the claims in a 'manner most favorable' to the plaintiff." *Crypto Research*, 236 F. Supp. 3d at 679 (citing *Content Extraction & Transmission v. Wells Fargo Bank, N.A.*, 776 F.3d 1343, 1349 (Fed. Cir. 2014)).

II. Defendants Have Failed to Demonstrate That the '056 Patent Is Not Patent Eligible

Defendants' patent argument is based on Section 101 of the Patent Act and its recent construction in *Alice Corp. Pty. Ltd. v. CLS Bank Int'l,* 134 S. Ct. 2347 (2014),[1] particularly the Court's statement that certain abstract ideas are not patentable. From here, Defendants posit that "[t]he scope of the abstract ideas exception is broad," but cite no authority for this heady contention. (Defs.' Br. at 10.) Instead, Defendants merely cite to four instances where a court invalidated a patent based on the abstract ideas exception to patent eligibility. *Id.*

In fact, the exact opposite of Defendants' contention is true: the abstract idea exception is a narrow "judicial exception" that applies only when a patent's "character as a whole is directed to excluded subject matter." *McRO, Inc. v. Bandai Namco Games Am. Inc.*, 837 F.3d 1299, 1312 (Fed. Cir. 2016) (quoting *Internet Patents Corp. v. Active Network, Inc.*, 790 F.3d 1343, 1346 (Fed. Cir. 2015)). The Supreme Court in *Alice* explained that the abstract ideas exception was limited to the "building blocks of human ingenuity." *Alice,* 134 S. Ct. at 2354. Indeed, the *Alice* Court warned the lower courts to "tread carefully in construing this exclusionary principle lest it swallow all of patent law." *Id.* "At some level, 'all inventions . . . embody, use, reflect, rest upon, or apply laws of nature, natural phenomena, or abstract ideas.' Thus, an invention is not rendered ineligible for patent protection simply because it involves an abstract concept. *Alice,* 134 S. Ct. at 2354 (quoting *Diamond v. Diehr,* 450 U. S. 175, 187 (1981)).

[1] The *Alice* decision had the immediate effect of greatly increasing the rejection rate of software patents at the USPTO. *See generally* Austin Underhill, *Who Is Alice, And Why Is She Driving Patent Attorneys Mad As Hatters?*, ABOVE THE LAW (Feb. 19, 2016), https://abovethelaw.com/2016/02/who-is-alice-and-why-is-she-driving-patent-attorneys-mad-as-hatters/ (last visited Feb. 22, 2018) (In May 2014 the percentage of rejections based on § 101 was 7%; by August 2014, it was 12%; and by August 2015, § 101 rejections made up 15% of all rejections issued at the USPTO. "That's a massive increase, especially considering that software patents represent only a small portion of applications handled at the USPTO."). It should be noted that the '056 Patent was filed in 2012 and issued on October 7, 2014, four months *after* the *Alice* decision was handed down.

After *Alice*, courts are to apply a two-step test to determine whether a claim is patent eligible: ***first***, a court must "determine whether the claims at issue are directed to . . . patent-ineligible concepts" and, if so, ***second***, whether the claims contain additional elements that "transform the nature of the claim" into a patent-eligible application. *Alice*, 134 S. Ct. at 2355. (citations omitted). The Court described this second step as a search for an "inventive concept" – *i.e.*, an element or combination of elements that is "sufficient to ensure that the patent in practice amounts to significantly more than a patent upon the [ineligible concept] itself. *Id.*

A. Step 1: The '056 Patent Claims Are Not Directed to an Abstract Idea

Defendants argue that the '056 Patent is directed to an abstract idea because it "involves nothing more than reviewing a media message and determining whether its words are positive or negative, and, if so, to what degree." (Defs.' Br. at 13.) The flaw in this argument is that Defendants fundamentally misunderstand what "sentiment analysis" is and what exactly the '056 Patent does. As Defendants put it: "The very point of sentiment analysis in connection with investment activity is not to read tweets 'better' than humans do, but to predict how human beings will interpret media messages and thereby gauge the market." (Defs.' Br. at 21.)

Defendants' description is not what sentiment analysis is or what the '056 Patent does. Sentiment analysis does not gauge or predict what the *readers* of media messages will think but rather what the *writers* of media messages think. How a reader interprets a tweet is inherently subjective and prone to reader bias. What the '056 Patent does is aggregate all social media tweets of a particular subject and provide an objective determination of its content, through a routinized, rule-based set of intricate algorithms and custom-created databases. This task cannot be performed by humans, even if it were possible for a human to identify and read in real-time all the relevant tweets on a given subject matter, because every human being has inherent bias

that will affect the way they interpret tweets. So, the '056 Patent does in fact read tweets better than humans do, which is why Plaintiff's sentiment calculator is so new, novel and valuable.

Understood in this way, it is clear that this case should follow the precedent of the Federal Circuit Court in *McRO, Inc. v. Bandai Namco Games Am., Inc.*, 837 F.3d 1299 (Fed. Cir. 2016), where the court found that a process whereby a complex set of rules automatically deriving human expression was patent-eligible as it was not simply an abstract idea. This is precisely what Plaintiff has achieved with the process described in the '056 Patent.

The patent in *McRO* involved a method of automatically producing "accurate and realistic lip synchronization and facial expressions in animated characters." *Id.* at 1307. The process served to improve the prior art in that it obviated the need for manual computer animators: the limiting rules took the place of the artist by determining the positioning of a human face based on "the differences in mouth positions for similar phonemes based on context." *Id.* at 1307, 1313. Under the prior art,

> "an animator's process was driven by subjective determinations rather than specific, limited mathematical rules. The prior art 'animator would decide what the animated face should look like at key points in time between the start and end times, and then 'draw' the face at those times.'"

Id. at 1314. The computer in *McRO* was "employed to perform a distinct process to automate a task previously performed by humans." *Id.* The court found that it was "the incorporation of the claimed rules, not the use of the computer, that 'improved [the] existing technological process' by allowing the automation of further tasks." *Id.* The *McRO* court did not find persuasive the argument that the patent involved simply re-organized existing information, because the process was subject to rules that served to automate a process that was, until that time, dependent on human animators to determine which expression would match the data input: the text of a song.

McRO is a case that was decided in the Step 1 phase of the *Alice* analysis.[2] Naturally, Defendants claim that *McRO* is distinguishable from the present because

> "[in *McRO*], the claimed invention consisted of sets of specific rules, applied by computers, that represented a new technique for achieving realistic animation effects, one that differed from prior methods. The rules did not simply convert a pre-existing human process into a computerized facsimile, but rather created a new process, distinct from the known manual process."

(Defs.' Br. at 20.) However, Defendants' characterization of the invention in *McRO* describes precisely what the '056 Patent achieves: applying a specific set of rules via a computer and creating a new technique for achieving a result that is superior to prior methods. Defendants also mischaracterize the patent in *McRO*. The Federal Circuit described the patent as improving computer animation by converting a pre-existing human process (face animation) and, through a set of rules, automating that animation, achieved a non-subjective result without the need for an animator to determine what expression should match a given input. *McRO*, 837 F.3d at 1313.

Defendants further claim that the '056 patent has "merely taken a standard practice (we analyze words in syntactical context every time we read a sentence) and, for claim 7, attempted to recreate on a computer a basic type of sentiment analysis that readers of social media messages already perform." (Defs.' Br. at 20.) But this is precisely what the animators were doing prior to the *McRO* patent: analyzing words within context and determining an appropriate phoneme, or mouth position, based on that context. The human animators had been performing this task manually. The method in *McRO* transformed that labor-intensive task into an automatic process. Here, as in *McRO*, the relevant rule sets take input and divorce an operator or animator's subjective thought from the rules-based, deterministically-generated output.

[2] Curiously, Defendants attempt to distinguish *McRO* at pages 20–21 of their brief where Defendants discuss Step 2 of the *Alice* analysis.

Finally, Defendants attempt to distinguish *McRO* by claiming that (i) the '056 Patent is a "model of interpretation that human beings have used in reading textual materials for years" and (ii) the very point of sentiment analysis is "not to read tweets 'better' than humans do, but to predict how human beings will interpret media messages, and thereby gauge the market." (Defs.' Br. at 21.) The former argument ignores the fact that for thousands of years humans have been drawing the human face to display a subject's emotion or sentiment. The latter ignores the fact that the *McRO* computer animation process did not result in animation that was necessarily of a higher quality, rather the process was more efficient and thus an improvement over prior art. Defendants' analysis is an invitation to error that *Alice* warned against: that courts should not let the over-generalization of abstract ideas "swallow all of patent law." *Alice*, 134 S. Ct. at 2354.

Defendants' reliance on *CyberSource Corp. v. Retail Decisions, Inc.*, 654 F.3d 1366 (2011) is similarly misplaced. (Defs.' Br. at 14.) Indeed, *CyberSource*, in distinguishing two cases where patent eligibility was found, shows why the claims of the '056 Patent are not directed to an abstract idea. In distinguishing the patent in *SiRF Tech*, *CyberSource* placed great weight on the fact that the patent in that case involved calculations that could not "be performed entirely in the human mind." *CyberSource*, 654 F.3d at 1376 (quoting *SiRF Tech., Inc. v. Int'l Trade Comm'n*, 601 F.3d 1319, 1333 (Fed. Cir. 2010)). *CyberSource* also distinguished the patent in *Research Corp.* on similar grounds: the data output "could not, as a practical matter, be performed entirely in the human's mind." *CyberSource*, 654 F.3d at 1376 (distinguishing *Research Corp. Techs. v. Microsoft Corp.*, 627 F.3d 859 (Fed. Cir. 2010)). The problem solved by the patent in *Research Corp. Techs* involved a pixel-by-pixel comparison of "a plurality of color planes of said color image against a blue noise mask…." While this pixel-by-pixel comparison could be done by humans, the process was entirely impractical. 627 F.3d at 865.

Like the patent in *Research Corp.*, the amount of data analyzed by iSentium in real time, which has risen to levels as high as 3,000,000,000 tweets per month, cannot, as a practical matter, be performed in the human mind. And like the patent in *SiRF Tech*, the machine here is necessary to achieve the object of Claim 11: "[a] method for calculating sentiment using social media messages for the real-time evaluation of publicly traded assets…." Dkt. No. 12-1.

Defendants also rely on *Univ. of Florida Research Foundation, Inc. v. General Elec. Co.*, Case No. 1:17cv171-MW/GRJ, 2017 WL 5502940 (N.D. Fla. Nov. 16, 2017) to support their argument that the '056 Patent merely describes an abstract concept of data collection and manipulation with "technical-sounding verbosity." (Defs.' Br. at 13) However, the patent in that case was found ineligible due to abstractness, not because it described an abstract concept. Moreover, although *Univ. of Florida Research Foundation* involved the use of real-time data, it was not "big data," and nothing beyond the mathematical capabilities a human could perform. On the other hand, the '056 Patent does not simply involve the application of math to a set of data. It is iSentium's natural language processing rules (like the rules in *McRO*), that yield machine-produced objective sentiment results. If the '056 Patent simply involved applying a mathematical calculation to data, you would get a single correct output for each input. However, sentiment analysis and the '056 Patent do not work that way, which is why Defendants' description of the '056 Patent and sentiment analysis is completely wrong.

Finally, Defendants rely on *Fairwarning IP, LLC v. Iatric Sys., Inc.*, 839 F.3d. 1089 (Fed. Cir. 2016) for the proposition that claims directed merely to collecting and analyzing information are not patent eligible. (Defs.' Br. at 14). *Fairwarning*, however, explains precisely why *McRO* applies to this case:

> "The claimed rules in *McRO* transformed a traditionally subjective process performed by human artists into a mathematically

> automated process executed on computers. Indeed, Defendants conceded that prior animating processes were 'driven by subjective determinations rather than specific, limited mathematical rules,' such as the mathematical rules articulated in McRO's claimed method. Thus, the traditional process and newly claimed method stood in contrast: while both produced a similar result, i.e., realistic animations of facial movements accompanying speech, the two practices produced those results in fundamentally different ways.
>
> As such, we explained that 'it [was] the incorporation of the claimed rules, not the use of the computer, that 'improved [the] existing technological process' by allowing the automation of further tasks."'

839 F.3d. at 1094 (citations omitted); *see also Procter & Gamble Co. v QuantifiCare Inc.*, 17-CV-03061-LHK, 2017 WL 6497629, at *14 (N.D. Cal. Dec. 19, 2017) (distinguishing claims in that case from the claims in *McRO* because the *McRO* claims improved on a task that had been "driven by subjective [human] determinations rather than specific, limited mathematical rules").

B. Step 2: The '056 Patent Claims Are Inventive

The '056 Patent claims also satisfy the Step 2 phase of the *Alice* analysis because the claims are not conventional or generic, and they do not preempt all approaches to social media sentiment analysis at the sentence level for a particular asset. *See Bascom Global Internet Services, Inc. v. AT&T Mobility LLC*, 827 F.3d 1341, 1349–52 (Fed. Cir. 2016) (vacating district court's dismissal under Rule 12(b)(6) because, *inter alia*, the claims at issue did not preempt all ways of patent-holder's technical improvement of a known abstract concept); *see also Amdocs (Israel) Limited v. Openet Telecom, Inc.*, 841 F.3d 1288, 1301 (2016) (patent claim was eligible under Section 101 because "It [was] narrowly drawn to not preempt any and all generic enhancement of data in a similar system, and [did] not merely combine the components in a generic manner ...").

Instead, the summary to the '056 Patent explains how its non-conventional approach to sentiment analysis of social media messages represents a novel improvement over the prior art in that the conventional approaches to this problem

> "fail to determine the sentiment with respect to specific assets in short digital messages such as tweets sent via the online social networking service Twitter. Their main pitfall is that they fail to process the sentiment in the syntax-semantic context of the message."

('056 Patent, 1:44–48). The failures of the prior art made it impossible to accurately convey real-time sentiment of social media commentary on publicly-traded assets because of the inherent subjectivity in classifying data. As recently as 2014, it was still widely believed that what iSentium accomplished was not possible because "human judgment is often required to make accurate and useful classifications of linguistic data." Michael Mattioli, *Disclosing Big Data*, 99 MINN. L. REV. 535, 569 (2014). The example cited in Mattioli's article illustrates how inventive the '056 Patent was at that time: "If a laptop is big, it's negative. But if a hard drive is big, it's good." *Id.* Plaintiff's patent solved this technological problem by processing social media data in an entirely new way.

The technology described by the '056 Patent allows iSentium to solve a technological problem (accurately and objectively determine in real time the sentiment of social media messaging regarding publicly traded companies) using a common off-the-shelf computer, but with limitations that when considered as an ordered combination recite an inventive concept through the system's architecture. *Compare Amdocs*, 841 F.3d at 1301 (Step 2 is satisfied when the patent "purposefully arranges the components in a distributed architecture to achieve a technological solution to a technological problem") *with Digitech Image Technologies v. Electronics for Imaging, Inc.*, 758 F.3d 1344, 1350–51 (Fed. Cir. 2014) (patent invalidated where it involved combining data in an ordinary manner with no inventive concept).

Defendants mischaracterize the teachings of the claims and the '056 patent as well understood and routine, but a plain reading of the '056 Patent shows otherwise. Claim 1 recites "a means for determining polarity in the social media messages based upon pairs of lexical items in local syntactic context" and "a means for determining a strength value in the social media messages based upon the pairs of lexical items in local syntactic context." It is well known that "means-plus-function clauses comprise not only the language of the claims, but also the structure corresponding to that means that is disclosed in the written description portion of the specification (and equivalents thereof)." *Atmel Corp. v. Info. Storage Devices*, 198 F.3d 1374, 1381–82 (Fed. Cir. 1999). In determining whether the specification discloses sufficient structure "the understanding of one skilled in the art [is] an integral part of [the] analysis." *Id*. at 1379. Additionally, "a means-plus-function limitation may be implicit in the written description if it would have been clear to those skilled in the art what structure must perform the function." *Id*. at 1380. Thus, the proper inquiry is whether the specification includes "sufficient descriptive text by which a person of skill in the field of invention would know and understand what structure corresponds to the means limitation." *Enfish LLC v. Microsoft Corp.*, 822 F.3d 1327, 1339 (Fed. Cir. 2016) (internal quotations and citations omitted).

Defendants inaccurately claim that the '056 patent fails to provide sufficient structure. (Defs.' Br. at 15–16.) Structure is not hardware alone, but includes algorithms and any "knowledge of one skilled in the particular art [used] to understand what structure(s) the specification discloses." *Atmel*, 198 F.3d at 1382. The '056 patent clearly discloses the steps by which polarity and strength values are determined, namely by applying its novel databases (*e.g.*, StockLex and SentLex) and system of rules to a social media message's syntactic constituents of head-compliment, modifier-modified, and subject-predicate relations.

The Defendants mischaracterize the claims in this manner to support a misplaced reliance on cases where courts found patents to recite ineligible subject matter at the pleadings stage and prior to claim construction. Courts have found dismissal at the pleading stage appropriate only in cases where there were no facts or claim terms in dispute.[3] That is not the case here.

"The question of whether a claim element or combination of elements is well-understood, routine and conventional to a skilled artisan in the relevant field is a question of fact" for a movant to prove "by clear and convincing evidence." *Berkheimer v. HP Inc.*, Appeal No. 2017-1437, Slip Op. at 12 (Fed. Cir. Feb. 8, 2018) (citing *Microsoft Corp. v. i4i Ltd. P'ship*, 564 U.S. 91, 95 (2011)); *see also Aatrix Software, Inc. v. Green Shades Software, Inc.*, Appeal No. 2017-1452, Slip Op. at 11–12 (Fed. Cir. Feb. 14, 2018) (at the Rule 12(b)(6) stage, the determination of whether claim elements are "well-understood, routine, [and] conventional" is a question of fact based purely on "the complaint, the patent, and materials subject to judicial notice.").

In *Berkheimer*, the district court granted a summary judgement motion of patent ineligibility under §101 because the district court concluded that the claims "describe steps that employ only well-understood, routine, and conventional computer functions and are claimed at a relatively high level of generality." *Id*. at 13 (internal quotations omitted). The Federal Circuit found "the district court erred in concluding there are not underlying factual questions to the §101 inquiry." *Id*. at 14. Specifically, the "specification of the [patent in dispute] discusses the state of the art at the time the patent was filed and the purported improvements of the invention" and "explains that the claimed improvement increases efficiency and computer functionality over

[3] *See Front Row Techs, LLC v. NBA Media Ventures, LLC*, 204 F. Supp. 3d 1190, 1238 (D.N.M. 2016) ("the parties have not identified any disputed claim constructions that prevent the Court from addressing the §101 merits at this stage."); *Evolutionary Intelligence, LLC v. Spring Nextel Corp.*, 137 F. Supp. 3d 1157, 1165–1166 (N.D. Cal., 2015) ("[the patentee] concedes that the structures recited in the claims are conventional and routine.")

the prior art systems:" *Id*. at 14. The Federal Circuit held that the "improvements in the specification, to the extent they are captured in the claims, create a factual dispute regarding whether the invention describes well-understood, routine, and conventional activities." *Id*. at 15.

Like the patent at issue in *Berkheimer*, the '056 Patent outlines the shortcomings of prior statistical methods of sentiment analysis. ('056 Patent, 1:25–48). The claims of the '056 Patent, especially claims 1–10, which comprise the structure corresponding to the recited means, capture the improvements over the prior methods. Thus, Defendants err not only in their reliance on cases in which claims were dismissed at the pleading stage but also in concluding that the claims fail to recite patentable subject matter.

III. The Complaint Adequately Pleads a Claim for Trade Secret Misappropriation

Defendants assert that the Complaint fails to specify what specific trade secrets were misappropriated from iSentium other than what is identified under the patent infringement claim. (Defs.' Br. at 21.) Defendants' argument is wrong and wrongheaded. The Complaint describes in detail (*See* Compl. ¶¶ 22–24, 35, 55–57, 60–61) the confidential and proprietary information that iSentium provided to Bloomberg that were covered under the MNDA executed by the parties. iSentium provided enormous amounts of trade secret information to Bloomberg over the course of their three-year business relationship. It is neither possible nor required under the Federal Rules that iSentium catalog in its Complaint each and every trade secret misappropriated by Bloomberg in order to state a claim under the DTSA or New York common law. *See generally* Fed. R. Civ. 8 ("short and plain statement").

Federal courts have consistently found that no particularity requirement exists under the DTSA. *See Rockwell Collins, Inc. v. Wallace*, 2017 WL 5502775, at *2 (C.D. Cal. Nov. 10, 2017) (refusing to apply a particularity requirement to pleadings under the DTSA); *Physician's*

Surrogacy, Inc. v. German, 2017 WL 3622329, at *9 (S.D. Cal. Aug. 23, 2017); *Sleekez, LLC v. Horton*, 2017 WL 1906957, at *6 (D. Mont. Apr. 21, 2017); *see also Chubb Ina Holdings Inc. v. Chang*, 2017 WL 499682, *10 (D.N.J. Feb. 7, 2017) (noting that there is no heightened pleading standard for DTSA claims; a plaintiff "need not make out specific allegations as to exactly how Defendants used or disclosed Plaintiff[s'] trade secrets . . . Plaintiff[s are] entitled to seek discovery to support [their] allegations setting forth a prima face claim.").

Federal courts applying New York law have similarly held that there is no heightened pleading standard for common law misappropriation claims. *See, e.g., A Star Group, Inc. v. Manitoba Hydro*, 2014 WL 2933155, at *8 (S.D.N.Y. June 30, 2014), *aff'd*, 621 Fed. Appx. 681 (2d Cir. 2015) (citing *N. Atl. Instruments, Inc. v. Haber*, 188 F.3d 38, 43–44 (2d Cir.1999)).

Defendants complain that Plaintiff has made "no effort to break down or articulate any aspect of the general description it provides." (Defs.' Br. at 22) However, a general description is all that is required at this stage. A misappropriation of trade secret claim under the DTSA is adequately pled "in instances where the information and the efforts to maintain its confidentiality are described in general terms." *Sleekez*, 2017 WL 1906957 at *4. Similarly, a common law claim requires, "at minimum, that the plaintiff generally identify the trade secrets at issue." *Alexander Interactive, Inc. v. Leisure Pro Ltd*., No. 14-cv-2796 (PKC) 2014 WL 4651942, at *5 (S.D.N.Y. Sept. 16, 2014) (Castel, J.) (citing *Boccardi Capital Sys., Inc. v. D.E. Shaw Laminar Portfolios, L.L.C.*, No. 05–cv–6882 (GBD) 2009 WL 362118, at *4 (S.D.N.Y. Feb. 9, 2009)).

Plaintiff has satisfied both standards because it has alleged, among other things, that Defendants have improperly used Plaintiff's compiled source code, technical specifications of the application, user documentation, and proprietary data on which to run extensive and exhaustive tests of the efficacy of iSENSE to power event-driven trading. (Compl. ¶ 22.) In

addition, the Complaint alleges that Bloomberg misappropriated iSentium's proprietary methodologies for processing social media content and transforming its analyses into real-time graphs that are easily comprehended by an end-user. (Compl ¶¶ 23, 55–56.) Moreover, the Complaint alleges that Bloomberg has used iSentium's proprietary technology necessary to run a sentiment analysis application for event-driven trading of exchange-traded funds. (Compl. ¶ 35). These were all closely guarded trade secrets that were (a) not known outside of iSentium, (b) not publicly disclosed, and (c) subject to the MNDA entered into between the parties. Defendants therefore are on fair notice of the nature of Plaintiff's trade secrets misappropriation claims.

IV. Plaintiff's Complaint Raises Viable Common Law Causes of Action Independent of Its Patent Infringement and Misappropriation Claims

Plaintiff's other claims for breach of contract, promissory estoppel, unjust enrichment and unfair competition – as well as its requested accounting – do not "turn on the assertion that Bloomberg infringed a patent or misappropriated trade secrets." (Defs.' Br. at 25). For example, the breach of contract claim alleges that Defendants breached the terms of the MNDA by failing "to return any confidential information to iSentium." (Compl. at ¶ 29). An important part of this confidential information is the enormous dataset of tweets that iSentium analyzed and scored during the period of the Bloomberg business relationship. This data was never returned to iSentium and could be used by Bloomberg to help bring its own sentiment application online quickly. Defendants' obligation to return confidential information to Plaintiff exists completely independent of whether or not Defendants used such information to their benefit. The failure to return such information to Plaintiff – even if it were never used by Defendants – may not constitute patent infringement or misappropriation of trade secrets, but it does constitute a breach of the MNDA for which Plaintiff is entitled to relief.

As for Plaintiff's common law claims of unjust enrichment and promissory estoppel, this Court has found that at the pleading stage, these claims "may be pleaded in the alternative to other claims." *Barnet v. Drawbridge Special Opportunities Fund LP*, 14-cv-1376 PKC, 2014 WL 4393320, at *22 (S.D.N.Y. Sept. 5, 2014) (Castel, J.) (citing Fed. R. Civ. P. 8(a) ("[A] demand for the relief sought ... may include relief in the alternative or different types of relief.") and *Newman & Schwartz v. Asplundh Tree Expert Co., Inc.*, 102 F.3d 660, 663 (2d Cir. 1996) (reversing the dismissal of an unjust enrichment claim and holding that the claim was properly pleaded in the alternative to a contractual claim)).

CONCLUSION

For all the foregoing reasons, plaintiff iSentium respectfully requests that this Court deny Defendants' motion to dismiss in its entirety.

Dated: New York, New York
February 23, 2018

BLACKSTONE LAW GROUP LLP
/s/ John D. Lovi
John D. Lovi (john@blackstone-law.com)
Alexander J. Urbelis (alex@blackstone-law.com)
Justin B. Perri (justin@blackstone-law.com)
1201 Broadway, 9th Floor
New York, New York 10001
Telephone/ Facsimile: (212) 779 3070

- and -

Brake Hughes Bellermann LLP
Mark R.W. Bellermann (mark@brakehughes.com)
Melanie Grover (melanie@brakehughes.com)
1701 Pennsylvania Avenue, NW, Suite 300
Washington, DC 20006
Telephone: (202) 470 6453
Facsimile: (202) 470 6464

Attorneys for Plaintiff iSentium, LLC